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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,166	08/20/2003	Fritz Kramer	13949-0018	7618

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EXAMINER

GELLNER, JEFFREY L

ART UNIT PAPER NUMBER

3643

DATE MAILED: 02/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/645,166

Applicant(s)

KRAMER ET AL.

Examiner

Jeffrey L. Gellner

Art Unit

3643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 14-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC §103*

The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5-8, and 11-13 are is rejected under 35 U.S.C. §103(a) as being unpatentable over Lee (US 4,729,190) in view of Beaudry (US 5,525,130).

As to claim 1, Lee discloses a composition of matter comprising a microporous solid (col. 2 lines 25-31; col. 8 lines 31-40; col. 10 lines 42-46) having a plurality of cells (inherent in col. 2 lines 25-31; col. 8 lines 31-40; col. 10 lines 42-46) and quantity of gas (col. 8 lines 41-68, in particular, “volatile active agent can be deposited from vapor state) of col. 8 lines 66-67) contained with one or more of the plurality of cells. Not disclosed is the gas being ethylene. Beaudry, however, discloses a composition that has cells with ethylene (“purified gas” of col. 4 lines 38-40). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition of Lee by using ethylene gas as disclosed by Beaudry so as to manipulate maturation in plants (see abstract of Beaudry).

As to Claim 2, Lee as modified by Beaudry further disclose an open cell configuration (from “various geometries” of Lee at col. 8 lines 25-31; col. 9 lines 26-28).

As to Claim 3, Lee as modified by Beaudry further disclose a closed cell configuration (from “various geometries” of Lee at col. 8 lines 25-31).

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As to Claim 5, the limitations of Claim 1 are disclosed as described above. Not disclosed is the microporous solid having a density of between 0.1 and 10 lb/cubic foot. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition of Lee as modified by Beaudry by making the composition's density from 0.1 to 10 lb/cubic foot so as to meet a particular purpose for the composition.

As to Claim 6, Lee as modified by Beaudry further disclose a nitrogenous microporous solid (using "acrylamide or acrylonitrile" from col. 4 line 50 of Lee and "granules or the like" of col. 10 line 45 of Lee).

As to Claim 7, Lee as modified by Beaudry further disclose release over time (col. 2 lines 30-31 of Lee).

As to Claim 8, Lee as modified by Beaudry further disclose the gas able to diffuse through the cell wall (from "permeabilities" of col. 2 lines 25-31 of Lee).

As to Claim 11, Lee as modified by Beaudry further disclose a solid with a density that can be changed so as to alter the change in the rate of release of ethylene (inherent in many compositions presented in Lee).

As to Claim 12, Lee as modified by Beaudry further disclose a solid with a shape that can be changed so as to alter the change in the rate of release of ethylene (inherent in many compositions presented in Lee).

As to Claim 13, Lee as modified by Beaudry further disclose a solid with a density and shape that can be changed so as to alter the change in the rate of release of ethylene (inherent in many compositions presented in Lee).

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Claims 9 and 10 are is rejected under 35 U.S.C. §103(a) as being unpatentable over Lee (US 4,729,190) in view of Beaudry (US 5,525,130) in further view of Allan (US 5,252,542).

As to Claims 9 and 10, the limitations of Claim 1 are disclosed as described above. Not disclosed is the gas released due to degradation of the cell's walls. Allen, however, discloses a composition where the impregnant is released by the degradation of the cell wall (col. 2 lines 10-12). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition of Lee as modified by Beaudry by having the release mechanism degradation of the cell's wall as disclosed by Allen as an alternative means of release.

### ***Response to Arguments***

Applicant's arguments filed 13 December 2004 have been fully considered but they are not persuasive. The crux of Applicant's arguments are: (1) no motivation to combine Lee and Beaudry (Remarks page 7 1<sup>st</sup> complete para.); (2) the polymers of Lee are not permeable to ethylene (Remarks page 7 1<sup>st</sup> complete para.); and, (3) Allen does not disclose a microporous solid having a plurality of cells and a quantity of ethylene gas (Remarks page 7 3<sup>rd</sup> complete para.).

As to argument (1), Examiner considers the combination of Lee and Beaudry to be proper with adequate motivation because Lee deals with the slow consistent release of volatiles, such as pheromones (which are useful in agricultural) and Beaudry deals with the release of ethylene in an agricultural setting.

As to argument (2), Examiner considers the polymers of Lee to be permeable to ethylene since they are available for an “extremely wide range[] of application possibilities” (Lee at col. 3 lines 15-39).

As to argument (3), Allen is used to disclose the walls of a material being degradable. Lee discloses the permeable cell structure. The combination is proper because both deal with the release of a substance from a material.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

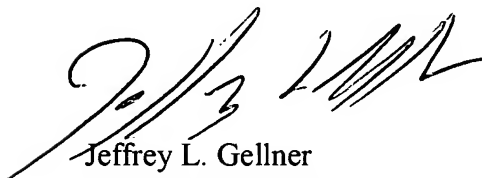
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Jeffrey L. Gellner whose phone number is 703.305.0053. The Examiner can normally be reached Monday through Thursday from 8:30 am to 4:00 pm. The Examiner can also be reached on alternate Fridays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Peter Poon, can be reached at 703.308.2574. The official fax telephone number for the Technology Center where this application or proceeding is assigned is 703.872.9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.1113.



Jeffrey L. Gellner  
Primary Examiner